

ART 34 AMDT

00/22725
PEANUS 28 AUG 2001

Pklseq1.app
SEQUENCE LISTING

<110> Ogas, Joseph P.
Somerville, Christopher R.

<120> Methods and Compositions for Regulating Developmental Identity

<130> 7024-473

<140> Unknown

<141> 2000-08-18

<150> US 60/149,975

<151> 1999-08-20

<160> 30

<170> MS Notebook

<210> 1

<211> 4177

<212> DNA

<213> Arabidopsis thaliana

<220>

<400> 1
atg agt agt ttg gtg gag agg ctt cgc ata cga tct gat agg aaa cca 48
Met Ser Ser Leu Val Glu Arg Leu Arg Ile Arg Ser Asp Arg Lys Pro
1 5 10 15

gtt tat aac cta gat gat tct gat gat gac gac ttc gtt cct aaa aaa 96
Val Tyr Asn Leu Asp Asp Ser Asp Asp Asp Phe Val Pro Lys Lys
20 25 30

gat cga acc ttt gag caa gtc gag gct att gtc aga act gat gcg aaa 144
Asp Arg Thr Phe Glu Gln Val Glu Ala Ile Val Arg Thr Asp Ala Lys
35 40 45

gaa aat gca tgt cag gct tgt ggg gaa agt act aat ctt gta agc tgc 192

ART 34400

Pklseq1.app

Glu Asn Ala Cys Gln Ala Cys Gly Glu Ser Thr Asn Leu Val Ser Cys
 50 55 60
 aat aca tgc act tat gcg ttc cat gct aaa tgc tta gtt cca cct ctt 240
 Asn Thr Cys Thr Tyr Ala Phe His Ala Lys Cys Leu Val Pro Pro Leu
 65 70 75 80
 aaa gat gct tcc gtg gaa aat tgg aga tgc cct gaa tgt gtt agt cct 288
 Lys Asp Ala Ser Val Glu Asn Trp Arg Cys Pro Glu Cys Val Ser Pro
 85 90 95
 ctt aac gag ata gat aag ata ttg gat tgt gaa atg cgt cct aca aaa 336
 Leu Asn Glu Ile Asp Lys Ile Leu Asp Cys Glu Met Arg Pro Thr Lys
 100 105 110
 tct agt gaa caa ggt tcc tcc gat gcg gaa ccg aag cca att ttt gtg 384
 Ser Ser Glu Gln Gly Ser Ser Asp Ala Glu Pro Lys Pro Ile Phe Val
 115 120 125
 aaa cag tat ctc gtg aag tgg aag gga tta tca tac ctt cac tgc tct 432
 Lys Gln Tyr Leu Val Lys Trp Lys Gly Leu Ser Tyr Leu His Cys Ser
 130 135 140
 tgg gtg cct gag aag gag ttc cag aag gct tat aag tca aat cat cgt 480
 Trp Val Pro Glu Lys Glu Phe Gln Lys Ala Tyr Lys Ser Asn His Arg
 145 150 155 160
 tta aaa acc aga gtg aac aat ttt cac cgt caa atg gag tca ttc aat 528
 Leu Lys Thr Arg Val Asn Asn Phe His Arg Gln Met Glu Ser Phe Asn
 165 170 175
 aac agc gaa gat gat ttt gtt gcc ata cgt cct gag tgg acc act gtt 576
 Asn Ser Glu Asp Asp Phe Val Ala Ile Arg Pro Glu Trp Thr Thr Val
 180 185 190
 gat cgg att ctt gcc tgc aga gag gaa gat ggg gag ctg gaa tat ctt 624
 Asp Arg Ile Leu Ala Cys Arg Glu Glu Asp Gly Glu Leu Glu Tyr Leu
 195 200 205
 gtc aaa tat aaa gag cta tcc tat gat gaa tgt tat tgg gag tca gaa 672
 Val Lys Tyr Lys Glu Leu Ser Tyr Asp Glu Cys Tyr Trp Glu Ser Glu

ACT 34 AME

00/22725
PEANUS 28 AUG 2001

Pklseq1.app

210	215	220	
tca gac atc tca acc ttc cag aat gaa att caa agg ttc aag gat gta			720
Ser Asp Ile Ser Thr Phe Gln Asn Glu Ile Gln Arg Phe Lys Asp Val			
225	230	235	240
aat tct aga act cgc aga agt aaa gat gtt gac cat aaa aga aat ccc			768
Asn Ser Arg Thr Arg Arg Ser Lys Asp Val Asp His Lys Arg Asn Pro			
245	250		255
aga gac ttt caa cag ttt gat cat act cct gaa ttc ctc aaa ggc ttg			816
Arg Asp Phe Gln Gln Phe Asp His Thr Pro Glu Phe Leu Lys Gly Leu			
260	265	270	
tta cat cca tac cag ctt gag gga ctt aat ttt ttg cgg ttc tcg tgg			864
Leu His Pro Tyr Gln Leu Glu Gly Leu Asn Phe Leu Arg Phe Ser Trp			
275	280	285	
tca aaa cag acg cat gta atc ctt gct gat gaa atg gga cta ggc aag			912
Ser Lys Gln Thr His Val Ile Leu Ala Asp Glu Met Gly Leu Gly Lys			
290	295	300	
aca att caa agc att gcc ctt tta gct tca ctt ttt gag gag aac ctc			960
Thr Ile Gln Ser Ile Ala Leu Leu Ala Ser Leu Phe Glu Glu Asn Leu			
305	310	315	320
att ccg cat ttg gta att gct cct cta tcg act ctg cgt aac tgg gag			1008
Ile Pro His Leu Val Ile Ala Pro Leu Ser Thr Leu Arg Asn Trp Glu			
325	330	335	
aga gag ttt gcc aca tgg gcc cca cag atg aac gtg gtt atg tat ttt			1056
Arg Glu Phe Ala Thr Trp Ala Pro Gln Met Asn Val Val Met Tyr Phe			
340	345	350	
ggc act gcg caa gct cga gca gtt atc aga gaa cat gag ttt tac tta			1104
Gly Thr Ala Gln Ala Arg Ala Val Ile Arg Glu His Glu Phe Tyr Leu			
355	360	365	
tcg aaa gat caa aaa aag atc aag aaa aag aaa tct gga caa ata agt			1152
Ser Lys Asp Gln Lys Lys Ile Lys Lys Lys Ser Gly Gln Ile Ser			
370	375	380	

APR 31 2001

2005 UU/22725
PEANUS 28 AUG 2001

Pklseq1.app

agc gaa agc aag caa aaa aga atc aag ttt gat gtc ctc ctc aca tcg 1200
Ser Glu Ser Lys Gln Lys Arg Ile Lys Phe Asp Val Leu Leu Thr Ser
385 390 395 400
tat gag atg atc aac cta gat tca gca gtt cta aaa cca att aag tgg 1248
Tyr Glu Met Ile Asn Leu Asp Ser Ala Val Leu Lys Pro Ile Lys Trp
405 410 415
gag tgc atg att gtt gat gaa ggt cat cga ctg aaa aat aag gat tca 1296
Glu Cys Met Ile Val Asp Glu Gly His Arg Leu Lys Asn Lys Asp Ser
420 425 430
aag ctg ttc tct tca ttg aca cag tat tca agt aac cac cgt att ctt 1344
Lys Leu Phe Ser Ser Leu Thr Gln Tyr Ser Ser Asn His Arg Ile Leu
435 440 445
ctg aca gga aca cca ctt cag aac aac ttg gat gaa ctt ttc atg ctc 1392
Leu Thr Gly Thr Pro Leu Gln Asn Asn Leu Asp Glu Leu Phe Met Leu
450 455 460
atg cat ttt ctt gat gcg ggg aag ttt gga agt ttg gag gag ttc cag 1440
Met His Phe Leu Asp Ala Gly Lys Phe Gly Ser Leu Glu Glu Phe Gln
465 470 475 480
gag gag ttc aaa gat att aat caa gag gag cag atc tca agg ttg cac 1488
Glu Glu Phe Lys Asp Ile Asn Gln Glu Glu Gln Ile Ser Arg Leu His
485 490 495
aaa atg ttg gct cca cat ttg ctc aga agg gta aaa aaa gac gta atg 1536
Lys Met Leu Ala Pro His Leu Leu Arg Arg Val Lys Lys Asp Val Met
500 505 510
aaa gac atg ccc ccc aaa aag gag ctc att ttg cgt gtt gat ctg agc 1584
Lys Asp Met Pro Pro Lys Lys Glu Leu Ile Leu Arg Val Asp Leu Ser
515 520 525
agt ctg cag aaa gaa tat tac aaa gct att ttt acc cgt aat tat caa 1632
Ser Leu Gln Lys Glu Tyr Tyr Lys Ala Ile Phe Thr Arg Asn Tyr Gln
530 535 540

Pklseq1.app

gta ttg aca aaa aag gga ggt gct caa att tcc ctt aat aac att atg 1680
Val Leu Thr Lys Lys Gly Gly Ala Gln Ile Ser Leu Asn Asn Ile Met
545 550 555 560
atg gaa tta cga aaa gta tgc tgc cat cct tat atg cta gag ggt gtt 1728
Met Glu Leu Arg Lys Val Cys Cys His Pro Tyr Met Leu Glu Gly Val
565 570 575
gag cca gtt att cac gac gca aat gaa gct ttc aaa caa ctt ttg gag 1776
Glu Pro Val Ile His Asp Ala Asn Glu Ala Phe Lys Gln Leu Leu Glu
580 585 590
tct tgt gga aag ctg caa ctt cta gat aaa atg atg gtc aaa ctg aaa 1824
Ser Cys Gly Lys Leu Gln Leu Leu Asp Lys Met Met Val Lys Leu Lys
595 600 605
gag caa gga cac aga gtc cta ata tac aca cag ttt cag cat atg ctg 1872
Glu Gln Gly His Arg Val Leu Ile Tyr Thr Gln Phe Gln His Met Leu
610 615 620
gac tta ctt gaa gac tac tgt acc cat aag aaa tgg cag tac gag cga 1920
Asp Leu Leu Glu Asp Tyr Cys Thr His Lys Lys Trp Gln Tyr Glu Arg
625 630 635 640
att gat gga aag gtt ggc gga gct gag cgg caa ata cgc ata gat cgg 1968
Ile Asp Gly Lys Val Gly Gly Ala Glu Arg Gln Ile Arg Ile Asp Arg
645 650 655
ttc aat gcc aaa aat tct aac aag ttt tgt ttt ttg ctc tcc aca aga 2016
Phe Asn Ala Lys Asn Ser Asn Lys Phe Cys Phe Leu Leu Ser Thr Arg
660 665 670
gct ggt ggc tta gga ata aat ctt gca acg gct gat aca gta atc att 2064
Ala Gly Gly Leu Gly Ile Asn Leu Ala Thr Ala Asp Thr Val Ile Ile
675 680 685
tat gac agt gac tgg aat cct cat gct gat ctt caa gca atg gct aga 2112
Tyr Asp Ser Asp Trp Asn Pro His Ala Asp Leu Gln Ala Met Ala Arg
690 695 700
gct cat cga ctt ggc caa aca aat aag gtg atg att tat agg ctc ata 2160

ART 34 AML

POOS 00122725
PEAUS 28 AUG 2001

Pklseq1.app

Ala His Arg Leu Gly Gln Thr Asn Lys Val Met Ile Tyr Arg Leu Ile
705 710 715 720
aac cga ggc acc att gaa gaa agg atg atg caa ttg act aaa aag aaa 2208
Asn Arg Gly Thr Ile Glu Glu Arg Met Met Gln Leu Thr Lys Lys Lys
725 730 735
atg gtt cta gag cat ctt gtt ggg aaa ctc aaa aca caa aac att 2256
Met Val Leu Glu His Leu Val Val Gly Lys Leu Lys Thr Gln Asn Ile
740 745 750
aat cag gaa gag tta gat gac atc atc agg tat gga tca aag gag ctt 2304
Asn Gln Glu Glu Leu Asp Asp Ile Ile Arg Tyr Gly Ser Lys Glu Leu
755 760 765
ttt gct agt gaa gat gat gaa gca gga aag tct gga aaa att cat tat 2352
Phe Ala Ser Glu Asp Asp Glu Ala Gly Lys Ser Gly Lys Ile His Tyr
770 775 780
gat gat gcg gct ata gac aaa ttg ctt gat cgt gat ctc gtg gag gca 2400
Asp Asp Ala Ala Ile Asp Lys Leu Leu Asp Arg Asp Leu Val Glu Ala
785 790 795 800
gag gaa gtc tca gtg gat gat gaa gag gag aat gga ttc tta aag gct 2448
Glu Glu Val Ser Val Asp Asp Glu Glu Glu Asn Gly Phe Leu Lys Ala
805 810 815
ttc aag gtg gct aat ttt gaa tat ata gat gaa aat gag gca gca gca 2496
Phe Lys Val Ala Asn Phe Glu Tyr Ile Asp Glu Asn Glu Ala Ala Ala
820 825 830
tta gag gca cag aga gtc gct gct gaa agc aaa tct tca gca ggc aat 2544
Leu Glu Ala Gln Arg Val Ala Ala Glu Ser Lys Ser Ser Ala Gly Asn
835 840 845
tct gat aga gca agt tat tgg gaa gag ttg tta aaa gat aaa ttt gag 2592
Ser Asp Arg Ala Ser Tyr Trp Glu Glu Leu Leu Lys Asp Lys Phe Glu
850 855 860
ctg cac cag gct gag gag ctt aat gct ctt gga aaa agg aag aga agt 2640

ART 34 AMDT

PEAKS 00/22725
PEAKS 28 AUG 2001

Pklseq1.app

Leu His Gln Ala Glu Glu Leu Asn Ala Leu Gly Lys Arg Lys Arg Ser
865 870 875 880
cgc aag cag ttg gta tcc att gaa gaa gat gat ctt gct ggt ttg gaa 2688
Arg Lys Gln Leu Val Ser Ile Glu Glu Asp Asp Leu Ala Gly Leu Glu
885 890 895
gat gtg agc tct gat gga gat gaa agt tat gaa gct gag tca aca gat 2736
Asp Val Ser Ser Asp Gly Asp Glu Ser Tyr Glu Ala Glu Ser Thr Asp
900 905 910
ggg gaa gca gca gga caa gga gtt cag acg ggt cga cgg ccg tac aga 2784
Gly Glu Ala Ala Gly Gln Gly Val Gln Thr Gly Arg Arg Pro Tyr Arg
915 920 925
aga aag ggt cgc gat aat ttg gaa cca act ccg ttg atg gaa ggt gag 2832
Arg Lys Gly Arg Asp Asn Leu Glu Pro Thr Pro Leu Met Glu Gly Glu
930 935 940
ggg aga tct ttc aga gta ctg ggt ttc aac cag agt caa agg gcc att 2880
Gly Arg Ser Phe Arg Val Leu Gly Phe Asn Gln Ser Gln Arg Ala Ile
945 950 955 960
ttt gta cag act ttg atg agg tat gga gct ggc aat ttt gat tgg aag 2928
Phe Val Gln Thr Leu Met Arg Tyr Gly Ala Gly Asn Phe Asp Trp Lys
965 970 975
gag ttt gtt cct cgc tta aag cag aag acc ttt gaa gaa ata aat gaa 2976
Glu Phe Val Pro Arg Leu Lys Gln Lys Thr Phe Glu Glu Ile Asn Glu
980 985 990
tat gga ata ctc ttc ttg aag cac att gct gaa gaa ata gac gag aat 3024
Tyr Gly Ile Leu Phe Leu Lys His Ile Ala Glu Glu Ile Asp Glu Asn
995 1000 1005
tct cca acc ttt tca gat ggt gtg ccc aag gaa gga ctt aga ata gaa 3072
Ser Pro Thr Phe Ser Asp Gly Val Pro Lys Glu Gly Leu Arg Ile Glu
1010 1015 1020
gat gtt cta gtc aga att gct ctt ctg ata cta gtt cag gag aag gtg 3120
Asp Val Leu Val Arg Ile Ala Leu Leu Ile Leu Val Gln Glu Lys Val

ART 34 AND 1

00/22725
PEANUS 28 AUG 2001

Pklseq1.app

1025	1030	1035	1040	
aaa ttt gta gaa gat cat cca ggg	aaa cct gtt ttc ccc	tct cgc att		3168
Lys Phe Val Glu Asp His Pro Gly	Lys Pro Val Phe Pro Ser Arg Ile			
1045	1050	1055		
ctt gaa aga ttc ccc gga ctg	aga agt gga aaa att tgg	aag gag gaa		3216
Leu Glu Arg Phe Pro Gly	Leu Arg Ser Gly Lys Ile Trp Lys Glu Glu			
1060	1065	1070		
cat gac aag ata atg ata cgt	gct gtt tta aag cat	ggg tac gga cgg		3264
His Asp Lys Ile Met Ile Arg Ala Val	Leu Lys His Gly Tyr Gly Arg			
1075	1080	1085		
tgg caa gct att gtt gat	gac aaa gag ttg	ggg atc caa gag ctt atc		3312
Trp Gln Ala Ile Val Asp Asp Lys	Glu Leu Gly Ile Gln Glu Leu Ile			
1090	1095	1100		
tgc aaa gaa ttg aat ttc	cct cac ata agt ttg	tct gct gct gaa caa		3360
Cys Lys Glu Leu Asn Phe Pro His Ile Ser	Leu Ser Ala Ala Glu Gln			
1105	1110	1115	1120	
gct ggt ttg cag ggg cag aat	ggt agt ggg ggc tct aat	ccg gga gca		3408
Ala Gly Leu Gln Gly Gln Asn Gly Ser	Gly Ser Asn Pro Gly Ala			
1125	1130	1135		
cag act aac cag aat cct gga	agc gtt att act ggg	aac aat aat gct		3456
Gln Thr Asn Gln Asn Pro Gly Ser Val	Ile Thr Gly Asn Asn Asn Ala			
1140	1145	1150		
tct gct gat ggg gct	caa gta aac tcg atg	ttc tat tat	cgg gac atg	3504
Ser Ala Asp Gly Ala Gln Val Asn Ser Met	Phe Tyr Tyr Arg Asp Met			
1155	1160	1165		
cag aga cga ctt gtt gag	ttt gtg aaa aag cga	gtt ctg ctt ttg	gag	3552
Gln Arg Arg Leu Val Glu Phe Val	Lys Lys Arg Val Leu Leu Leu Glu			
1170	1175	1180		
aag gcg atg aat tat gaa tac	gca gag gaa tat	tat gga ctt ggt ggc		3600
Lys Ala Met Asn Tyr Glu Tyr Ala Glu Glu	Tyr Tyr Gly Leu Gly Gly			
1185	1190	1195	1200	

00/22725
PEAKS 28 AUG 2001

APR 22 2001

Pklseq1.app

tca tca tct atc cct act gaa gaa cca gaa gct gaa cca aag atc gct 3648
Ser Ser Ser Ile Pro Thr Glu Glu Pro Glu Ala Glu Pro Lys Ile Ala
1205 1210 1215
gac aca gtg gga gtg agc ttt att gag gtt gat gat gaa atg ctt gat 3696
Asp Thr Val Gly Val Ser Phe Ile Glu Val Asp Asp Glu Met Leu Asp
1220 1225 1230
gga ctt cct aag act gat cct atc act tca gaa gaa att atg ggg gct 3744
Gly Leu Pro Lys Thr Asp Pro Ile Thr Ser Glu Glu Ile Met Gly Ala
1235 1240 1245
gct gtt gac aac aac caa gcg cgg gtc gaa ata gct caa cat tat aac 3792
Ala Val Asp Asn Asn Gln Ala Arg Val Glu Ile Ala Gln His Tyr Asn
1250 1255 1260
cag atg tgc aaa ctt ctt gat gag aac gct cgg gaa tca gtc caa gca 3840
Gln Met Cys Lys Leu Leu Asp Glu Asn Ala Arg Glu Ser Val Gln Ala
1265 1270 1275 1280
tat gta aac aac caa cca ccg agt acc aag gtg aat gag agc ttc cgt 3888
Tyr Val Asn Asn Gln Pro Pro Ser Thr Lys Val Asn Glu Ser Phe Arg
1285 1290 1295
gca ctc aaa tct atc aat ggt aac att aac aca atc ctt tcg att aca 3936
Ala Leu Lys Ser Ile Asn Gly Asn Ile Asn Thr Ile Leu Ser Ile Thr
1300 1305 1310
tct gat caa tcc aag tca cat gaa gac gac acc aag cca gac cta aac 3984
Ser Asp Gln Ser Lys Ser His Glu Asp Asp Thr Lys Pro Asp Leu Asn
1315 1320 1325
aat gtt gag atg aag gac acg gcc gaa aca aaa ccg tta aga ggt 4032
Asn Val Glu Met Lys Asp Thr Ala Glu Glu Thr Lys Pro Leu Arg Gly
1330 1335 1340
ggc gtc gtc gat ctg aat gtg gtg gag gga gag gag aac att gct gaa 4080
Gly Val Val Asp Leu Asn Val Val Glu Gly Glu Glu Asn Ile Ala Glu
1345 1350 1355 1360

Pklseq1.app

gct agt gga agt gtt gat gta aaa atg gaa gaa gcc aaa gaa gaa gag 4128
Ala Ser Gly Ser Val Asp Val Lys Met Glu Glu Ala Lys Glu Glu Glu
1365 1370 1375
aag cca aag aac atg gtc gtt gat tgactcaact ggtaaatcaa gattc 4177
Lys Pro Lys Asn Met Val Val Asp
1380

<210> 2
<211> 1384
<212> PRT
<213> Arabidopsis thaliana

<400> 2

Met Ser Ser Leu Val Glu Arg Leu Arg Ile Arg Ser Asp Arg Lys Pro
1 5 10 15

Val Tyr Asn Leu Asp Asp Ser Asp Asp Asp Asp Phe Val Pro Lys Lys
20 25 30

Asp Arg Thr Phe Glu Gln Val Glu Ala Ile Val Arg Thr Asp Ala Lys
35 40 45

Glu Asn Ala Cys Gln Ala Cys Gly Glu Ser Thr Asn Leu Val Ser Cys
50 55 60

Asn Thr Cys Thr Tyr Ala Phe His Ala Lys Cys Leu Val Pro Pro Leu
65 70 75 80

Lys Asp Ala Ser Val Glu Asn Trp Arg Cys Pro Glu Cys Val Ser Pro
85 90 95

Leu Asn Glu Ile Asp Lys Ile Leu Asp Cys Glu Met Arg Pro Thr Lys
100 105 110

Ser Ser Glu Gln Gln Gly Ser Ser Asp Ala Glu Pro Lys Pro Ile Phe Val
115 120 125

ART 34 A

00/22725
PEAUS 28 AUG 2001

Pklseq1.app

Lys Gln Tyr Leu Val Lys Trp Lys Gly Leu Ser Tyr Leu His Cys Ser
130 135 140

Trp Val Pro Glu Lys Glu Phe Gln Lys Ala Tyr Lys Ser Asn His Arg
145 150 155 160

Leu Lys Thr Arg Val Asn Asn Phe His Arg Gln Met Glu Ser Phe Asn
165 170 175

Asn Ser Glu Asp Asp Phe Val Ala Ile Arg Pro Glu Trp Thr Thr Val
180 185 190

Asp Arg Ile Leu Ala Cys Arg Glu Glu Asp Gly Glu Leu Glu Tyr Leu
195 200 205

Val Lys Tyr Lys Glu Leu Ser Tyr Asp Glu Cys Tyr Trp Glu Ser Glu
210 215 220

Ser Asp Ile Ser Thr Phe Gln Asn Glu Ile Gln Arg Phe Lys Asp Val
225 230 235 240

Asn Ser Arg Thr Arg Arg Ser Lys Asp Val Asp His Lys Arg Asn Pro
245 250 255

Arg Asp Phe Gln Gln Phe Asp His Thr Pro Glu Phe Leu Lys Gly Leu
260 265 270

Leu His Pro Tyr Gln Leu Glu Gly Leu Asn Phe Leu Arg Phe Ser Trp
275 280 285

Ser Lys Gln Thr His Val Ile Leu Ala Asp Glu Met Gly Leu Gly Lys
290 295 300

Thr Ile Gln Ser Ile Ala Leu Leu Ala Ser Leu Phe Glu Glu Asn Leu
305 310 315 320

Ile Pro His Leu Val Ile Ala Pro Leu Ser Thr Leu Arg Asn Trp Glu
325 330 335

00/22725
PEAKS 28 AUG 2001

ART 34 AND

Pklseq1.app

Arg Glu Phe Ala Thr Trp Ala Pro Gln Met Asn Val Val Met Tyr Phe
340 345 350

Gly Thr Ala Gln Ala Arg Ala Val Ile Arg Glu His Glu Phe Tyr Leu
355 360 365

Ser Lys Asp Gln Lys Lys Ile Lys Lys Lys Ser Gly Gln Ile Ser
370 375 380

Ser Glu Ser Lys Gln Lys Arg Ile Lys Phe Asp Val Leu Leu Thr Ser
385 390 395 400

Tyr Glu Met Ile Asn Leu Asp Ser Ala Val Leu Lys Pro Ile Lys Trp
405 410 415

Glu Cys Met Ile Val Asp Glu Gly His Arg Leu Lys Asn Lys Asp Ser
420 425 430

Lys Leu Phe Ser Ser Leu Thr Gln Tyr Ser Ser Asn His Arg Ile Leu
435 440 445

Leu Thr Gly Thr Pro Leu Gln Asn Asn Leu Asp Glu Leu Phe Met Leu
450 455 460

Met His Phe Leu Asp Ala Gly Lys Phe Gly Ser Leu Glu Glu Phe Gln
465 470 475 480

Glu Glu Phe Lys Asp Ile Asn Gln Glu Glu Gln Ile Ser Arg Leu His
485 490 495

Lys Met Leu Ala Pro His Leu Leu Arg Arg Val Lys Lys Asp Val Met
500 505 510

Lys Asp Met Pro Pro Lys Lys Glu Leu Ile Leu Arg Val Asp Leu Ser
515 520 525

Ser Leu Gln Lys Glu Tyr Tyr Lys Ala Ile Phe Thr Arg Asn Tyr Gln
530 535 540

RECEIVED
RECEIVED 28 AUG 2001

ART 34 AND

Pklseq1.app

Val Leu Thr Lys Lys Gly Gly Ala Gln Ile Ser Leu Asn Asn Ile Met
545 550 555 560

Met Glu Leu Arg Lys Val Cys Cys His Pro Tyr Met Leu Glu Gly Val
565 570 575

Glu Pro Val Ile His Asp Ala Asn Glu Ala Phe Lys Gln Leu Leu Glu
580 585 590

Ser Cys Gly Lys Leu Gln Leu Leu Asp Lys Met Met Val Lys Leu Lys
595 600 605

Glu Gln Gly His Arg Val Leu Ile Tyr Thr Gln Phe Gln His Met Leu
610 615 620

Asp Leu Leu Glu Asp Tyr Cys Thr His Lys Lys Trp Gln Tyr Glu Arg
625 630 635 640

Ile Asp Gly Lys Val Gly Gly Ala Glu Arg Gln Ile Arg Ile Asp Arg
645 650 655

Phe Asn Ala Lys Asn Ser Asn Lys Phe Cys Phe Leu Leu Ser Thr Arg
660 665 670

Ala Gly Gly Leu Gly Ile Asn Leu Ala Thr Ala Asp Thr Val Ile Ile
675 680 685

Tyr Asp Ser Asp Trp Asn Pro His Ala Asp Leu Gln Ala Met Ala Arg
690 695 700

Ala His Arg Leu Gly Gln Thr Asn Lys Val Met Ile Tyr Arg Leu Ile
705 710 715 720

Asn Arg Gly Thr Ile Glu Glu Arg Met Met Gln Leu Thr Lys Lys Lys
725 730 735

Met Val Leu Glu His Leu Val Val Gly Lys Leu Lys Thr Gln Asn Ile
Page 13

ART 31 AUG 2001

Pklseq1.app

740

745

750

Asn Gln Glu Glu Leu Asp Asp Ile Ile Arg Tyr Gly Ser Lys Glu Leu
755 760 765

Phe Ala Ser Glu Asp Asp Glu Ala Gly Lys Ser Gly Lys Ile His Tyr
770 775 780

Asp Asp Ala Ala Ile Asp Lys Leu Leu Asp Arg Asp Leu Val Glu Ala
785 790 795 800

Glu Glu Val Ser Val Asp Asp Glu Glu Glu Asn Gly Phe Leu Lys Ala
805 810 815

Phe Lys Val Ala Asn Phe Glu Tyr Ile Asp Glu Asn Glu Ala Ala Ala
820 825 830

Leu Glu Ala Gln Arg Val Ala Ala Glu Ser Lys Ser Ser Ala Gly Asn
835 840 845

Ser Asp Arg Ala Ser Tyr Trp Glu Glu Leu Leu Lys Asp Lys Phe Glu
850 855 860

Leu His Gln Ala Glu Glu Leu Asn Ala Leu Gly Lys Arg Lys Arg Ser
865 870 875 880

Arg Lys Gln Leu Val Ser Ile Glu Glu Asp Asp Leu Ala Gly Leu Glu
885 890 895

Asp Val Ser Ser Asp Gly Asp Glu Ser Tyr Glu Ala Glu Ser Thr Asp
900 905 910

Gly Glu Ala Ala Gly Gln Gly Val Gln Thr Gly Arg Arg Pro Tyr Arg
915 920 925

Arg Lys Gly Arg Asp Asn Leu Glu Pro Thr Pro Leu Met Glu Gly Glu
930 935 940

PEANUS 28 AUG 2001

Pklseq1.app

Gly Arg Ser Phe Arg Val Leu Gly Phe Asn Gln Ser Gln Arg Ala Ile
945 950 955 960

Phe Val Gln Thr Leu Met Arg Tyr Gly Ala Gly Asn Phe Asp Trp Lys
965 970 975

Glu Phe Val Pro Arg Leu Lys Gln Lys Thr Phe Glu Glu Ile Asn Glu
980 985 990

Tyr Gly Ile Leu Phe Leu Lys His Ile Ala Glu Glu Ile Asp Glu Asn
995 1000 1005

Ser Pro Thr Phe Ser Asp Gly Val Pro Lys Glu Gly Leu Arg Ile
1010 1015 1020

Glu Asp Val Leu Val Arg Ile Ala Leu Leu Ile Leu Val Gln Glu
1025 1030 1035

Lys Val Lys Phe Val Glu Asp His Pro Gly Lys Pro Val Phe Pro
1040 1045 1050

Ser Arg Ile Leu Glu Arg Phe Pro Gly Leu Arg Ser Gly Lys Ile
1055 1060 1065

Trp Lys Glu Glu His Asp Lys Ile Met Ile Arg Ala Val Leu Lys
1070 1075 1080

His Gly Tyr Gly Arg Trp Gln Ala Ile Val Asp Asp Lys Glu Leu
1085 1090 1095

Gly Ile Gln Glu Leu Ile Cys Lys Glu Leu Asn Phe Pro His Ile
1100 1105 1110

Ser Leu Ser Ala Ala Glu Gln Ala Gly Leu Gln Gly Gln Asn Gly
1115 1120 1125

Ser Gly Gly Ser Asn Pro Gly Ala Gln Thr Asn Gln Asn Pro Gly
1130 1135 1140

ART 34 AMD

00/22725
PEAKS 28 AUG 2001

Pklseq1.app

Ser Val Ile Thr Gly Asn Asn Asn Ala Ser Ala Asp Gly Ala Gln
1145 1150 1155

Val Asn Ser Met Phe Tyr Tyr Arg Asp Met Gln Arg Arg Leu Val
1160 1165 1170

Glu Phe Val Lys Lys Arg Val Leu Leu Leu Glu Lys Ala Met Asn
1175 1180 1185

Tyr Glu Tyr Ala Glu Glu Tyr Tyr Gly Leu Gly Gly Ser Ser Ser
1190 1195 1200

Ile Pro Thr Glu Glu Pro Glu Ala Glu Pro Lys Ile Ala Asp Thr
1205 1210 1215

Val Gly Val Ser Phe Ile Glu Val Asp Asp Glu Met Leu Asp Gly
1220 1225 1230

Leu Pro Lys Thr Asp Pro Ile Thr Ser Glu Glu Ile Met Gly Ala
1235 1240 1245

Ala Val Asp Asn Asn Gln Ala Arg Val Glu Ile Ala Gln His Tyr
1250 1255 1260

Asn Gln Met Cys Lys Leu Leu Asp Glu Asn Ala Arg Glu Ser Val
1265 1270 1275

Gln Ala Tyr Val Asn Asn Gln Pro Pro Ser Thr Lys Val Asn Glu
1280 1285 1290

Ser Phe Arg Ala Leu Lys Ser Ile Asn Gly Asn Ile Asn Thr Ile
1295 1300 1305

Leu Ser Ile Thr Ser Asp Gln Ser Lys Ser His Glu Asp Asp Thr
1310 1315 1320

Lys Pro Asp Leu Asn Asn Val Glu Met Lys Asp Thr Ala Glu Glu
1325 1330 1335

ART 34 AAMD

00/22725
PEANUS 23 AUG 2001

Pklseq1.app

Thr Lys Pro Leu Arg Gly Gly Val Val Asp Leu Asn Val Val Glu
1340 1345 1350

Gly Glu Glu Asn Ile Ala Glu Ala Ser Gly Ser Val Asp Val Lys
1355 1360 1365

Met Glu Glu Ala Lys Glu Glu Glu Lys Pro Lys Asn Met Val Val
1370 1375 1380

Asp

<210> 3

<211> 19

<212> DNA

<213> Artificial Sequence

<220>

<221> misc_feature

<222> 18-19

<223> AFLP Primer EcoRI for AFLP Mapping Analysis in Example 1;
n may be a, g, c or t

<400> 3

agactgcgt a ccatttcnn 19

<210> 4

<211> 19

<212> DNA

<213> Artificial Sequence

<220>

<221> misc_feature

ART 34 ANDT

2000/22725
PEAUS 28 AUG 2001

Pklseq1.app

<222> 17-19

<223> AFLP Primer MseI for AFLP Mapping Analysis in Example 1;
n may be a, g, c or t

<400> 4

gatgagtcct gagtaannn 19

<210> 5

<211> 21

<212> DNA

<213> Arabidopsis thaliana

<220>

<223> Primers for PCR of Example 2;
sequence complementary to nucleotides 1725-1745 of SEQ ID NO:1

<400> 5

tgttgagcca gttattcacg a 21

<210> 6

<211> 21

<212> DNA

<213> Arabidopsis thaliana

<220>

<223> Primers for PCR of Example 2;
sequence complementary to nucleotides 1934-1914 in SEQ ID NO:1

<400> 6

acctttccat caattcgctc g 21

<210> 7

<211> 30

<212> DNA

ART 34 AMDR

00/22725
PEAUS 28 AUG 2001

Pklseq1.app

<213> Artificial Sequence

<220>

<221> misc_feature

<222> 1-30

<223> Primers for PCR of Example 2

<400> 7

ccgctcgaga accccaatga ccagctcagt 30

<210> 8

<211> 21

<212> DNA

<213> Artificial Sequence

<220>

<221> misc_feature

<222> 1-21

<223> Primers for PCR of Example 2;
sequence complementary to nucleotides 672-652 of
LEC1 cDNA sequence

<400> 8

ccttcttcac ttatactgac c 21

<210> 9

<211> 21

<212> DNA

<213> Arabidopsis thaliana

<220>

<223> Primers for PCR of Example 2;
nucleotides 65-85 of ROC3 cDNA sequence

ART 34 AND

Pklseq1.app

<400> 9

aagtctactt cgacatgacc g 21

<210> 10

<211> 21

<212> DNA

<213> Arabidopsis thaliana

<220>

○ <223> Primers for PCR of Example 2;
sequence complementary to nucleotides 524-504 of ROC3
cDNA sequence

<400> 10

cttccagagt cagatccaac c 21

<210> 11

<211> 30

<212> DNA

<213> Arabidopsis thaliana

<220>

○ <223> Primers for PCR of Example 4;
represent nucleotides 895-924 in SEQ ID NO:1 wherein nucleotide
907 is changed from "a" to "g"

<400> 11

gaaatggac taggcaggac aattcaaagc 30

<210> 12

<211> 30

<212> DNA

ART 34 AND

Pklseq1.app

<213> Arabidopsis thaliana

<220>

<223> Primers for PCR of Example 4;
represent sequence complementary to nucleotides
924-895 in SEQ ID NO:1, with nucleotide 911 changed from "t" to
"c".

<400> 12

gctttgaatt gtcctgccta gtcccatattc 30

<210> 13

<211> 47

<212> DNA

<213> Artificial Sequence

<220>

<221> misc_feature

<222> 1-47

<223> Primers for PCR of Example 4

<400> 13

aagccaaaga acatggtcgt tgatctagag gatcctgaag ctcgaaa 47

<210> 14

<211> 52

<212> DNA

<213> Artificial Sequence

<220>

<221> misc_feature

<222> 1-52

<223> Primers for PCR of Example 4

Pklseq1.app

<400> 14

gaatcttgat ttaccagttg agtcattttt gatgaaacag aagcttttg at 52

<210> 15

<211> 21

<212> DNA

<213> Arabidopsis thaliana

<220>

<223> Primers for PCR of Example 4;
represent sequence complementary to nucleotides 4152-4132 in SEQ
ID NO:1

<400> 15

atcaacgacc atgttcttg g 21

<210> 16

<211> 22

<212> DNA

<213> Arabidopsis thaliana

<220>

<223> Primers for PCR of Example 4;
represent nucleotides 4153-4174 in SEQ ID NO:1

<400> 16

tgactcaact ggttaatcaa ga 22

<210> 17

<211> 30

<212> DNA

<213> Artificial Sequence

ART 34 AML

00/22725
PEAKS 28 AUG 2001

Pklseq1.app

<220>
<221> misc_feature
<222> 1-30
<223> Primers for PCR of Example 5
<400> 17

ccgctcgagt gagtagttg gtggagaggc 30

<210> 18
<211> 30
<212> DNA
<213> Artificial Sequence
<220>

<221> misc_feature
<222> 1-30
<223> Primers for PCR of Example 5
<400> 18

ccggaattcc atcggaggaa ccttgttcac 30

<210> 19
<211> 30
<212> DNA
<213> Artificial Sequence
<220>

<221> misc_feature
<222> 1-30
<223> Primers for PCR of Example 5

Pklseq1.app

<222> 1-30

<223> Primers for PCR of Example 5

<400> 24

tgctctagac cctcacataa gtttgtctgc 30

<210> 25

<211> 31

<212> DNA

<213> Artificial Sequence

○<220>

<221> misc_feature

<222> 1-31

<223> Primers for PCR of Example 6

<400> 25

cgcggatcct ttttccactt ctcagtccgg g 31

<210> 26

<211> 34

~<212> DNA

<213> Artificial Sequence

<220>

<221> misc_feature

<222> 1-34

<223> Primers for PCR of Example 4

<400> 26

cttcgaactc gagggatccc catggctagc agct 34

ART 34 1001

POS 00/22/25
PEAKS 28 AUG 2001

Pklseq1.app

<400> 19

cgcgatccc atcggaggaa ccttgttcac 30

<210> 20

<211> 30

<212> DNA

<213> Artificial Sequence

<220>

<221> misc_feature

<222> 1-30

<223> Primers for PCR of Example 5

<400> 20

tgctctagat gagtagtttg gtggagaggc 30

<210> 21

<211> 30

<212> DNA

<213> Artificial Sequence

<220>

<221> misc_feature

<222> 1-30

<223> Primers for PCR of Example 5

<400> 21

ccgctcgagc cctcacataa gtttgtctgc 30

<210> 22

ART 347 AWED

AMUS 00/27725
PEAMUS 28 AUG 2001

Pklseq1.app

<211> 30
<212> DNA
<213> Artificial Sequence
<220>
<221> misc_feature
<222> 1-30
<223> Primers for PCR of Example 5

<400> 22

ccggaattcg tcttaggaag tccatcaagc 30

<210> 23
<211> 30
<212> DNA
<213> Artificial Sequence
<220>
<221> misc_feature
<222> 1-30
<223> Primers for PCR of Example 5

<400> 23

cgcggatccg tcttaggaag tccatcaagc 30

<210> 24
<211> 30
<212> DNA
<213> Artificial Sequence
<220>
<221> misc_feature

ART 34 AMD1

PCT/US00/22725
PCT/US 28 AUG 2001

Pklseq1.app

<210> 27
<211> 34
<212> DNA
<213> Artificial Sequence
<220>
<221> misc_feature
<222> 1-34
<223> Primers for PCR of Example 4

<400> 27
gctagccatg gggatccctc gagttcgaag gtac 34

<210> 28
<211> 12
<212> DNA
<213> Artificial Sequence
<220>
<221> misc_feature
<222> 1-12
<223> Primers for forming cassette inserted into pCAMBIA3300
in Example 4

<400> 28

ccaggtacct gg 12

<210> 29
<211> 20
<212> DNA

ART 34 AMDT

POUS 00/22725
PEAUS 28 AUG 2001

Pklseq1.app

<213> Artificial Sequence

<220>

<221> misc_feature

<222> 1-20

<223> Primers for forming cassette inserted into pCAMBIA3300
in Example 4

<400> 29

aattccaggt acctggcatg 20

<210> 30

<211> 38

<212> DNA

<213> Artificial Sequence

<220>

<221> misc_feature

<222> 1-38

<223> Sequence for forming clone of the rat glucocorticoid receptor in Example 4

<400> 30

tcttagaggat cctgaagctc gaaaaacaaa gaaaaaaaaa 38